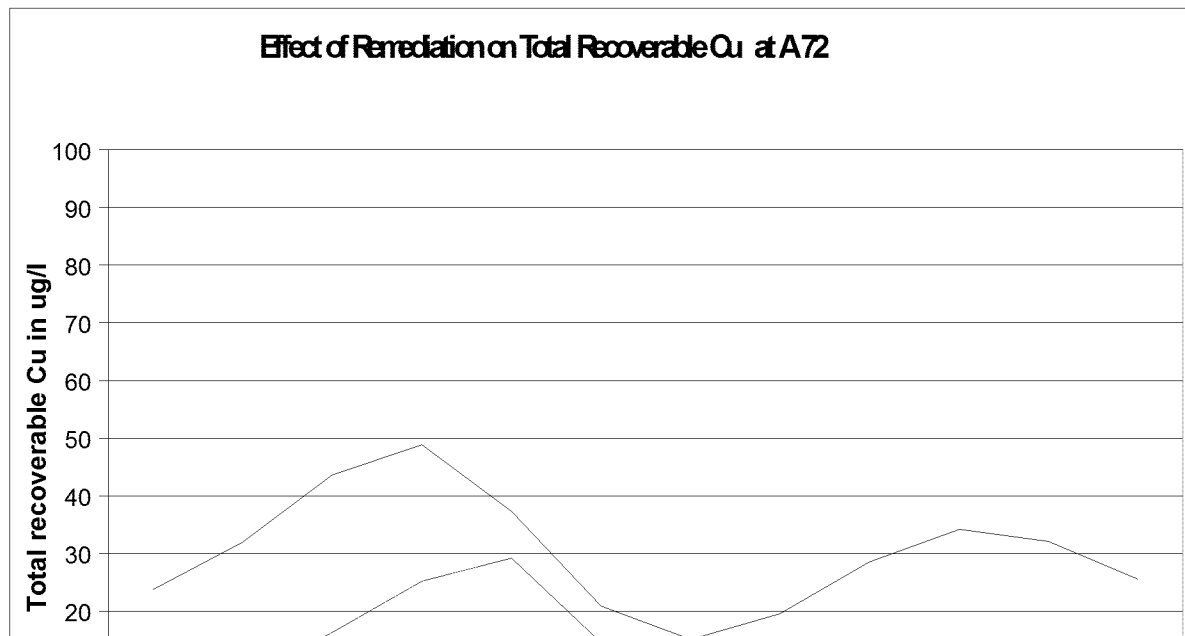
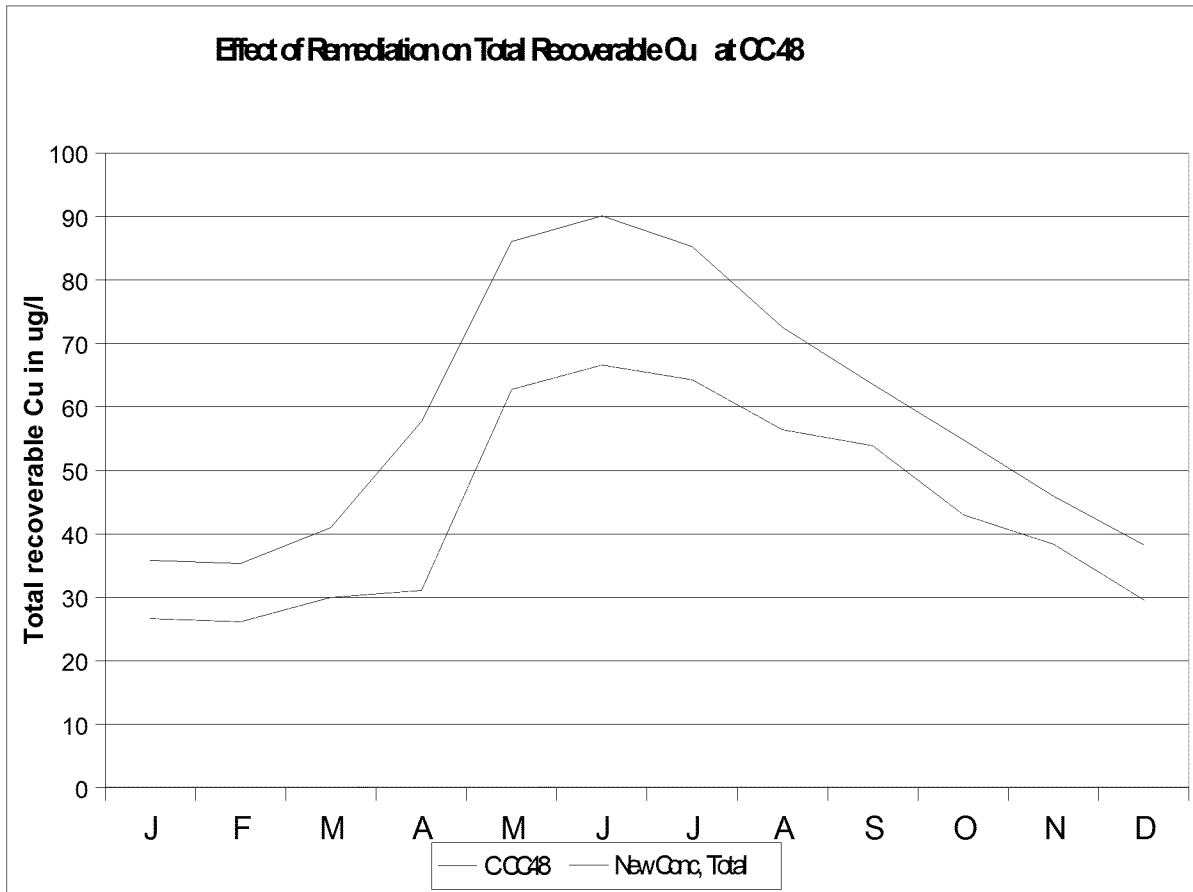
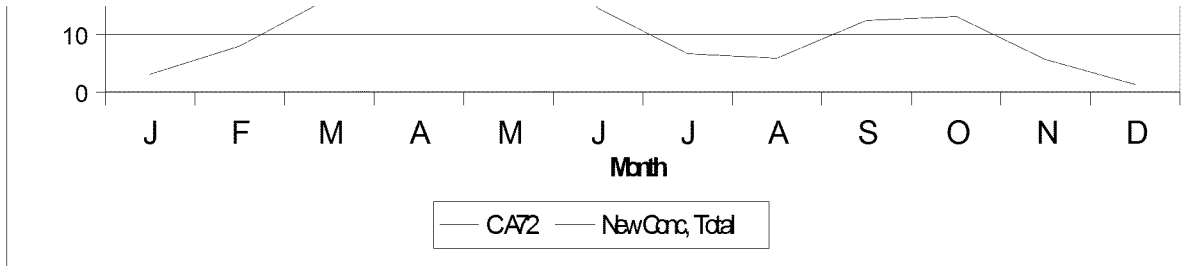


Make entries in yellow shaded areas only

		1	2	3	4	5	6	7
M/D/Y		J	F	M	A	M	J	J
Discharge in cubic feet per second								
Q A72		64	63	77	155	682	1196	625
Q M34		22	22	28	58	266	468	243
Q CC48		14	13	15	22	91	158	83
Q A68		25	25	31	66	329	585	300
Total Cu in ug/l								
C A72		24	32	44	49	37	21	15
C M34		52	58	67	66	44	24	19
C CC48		36	35	41	58	86	90	85
C A68		12	19	23	22	20	17	12
Change in pounds per day								
A 72		-7	-8	-11	-20	-30	-41	-28
M34		-6.00	-7.00	-10.00	-15.80	-16.33	-17.73	-17.10
CC48		-1	-1	-1	-3	-11	-20	-9
A68		0	0	0	-1	-2	-3	-2
Remediation Concentration in ug/l								
A 72	New Conc	3	8	16	25	29	15	7
M34	New Conc	3	0	0	16	32	17	6
CC 48	New Conc	27	26	30	31	63	67	64
A68	New Conc	8	15	20	20	19	16	11
TVS Concentration in ug/l								
A 72	TVS	11	11	10	8	4	3	3
M 34	TVS	20	19	18	14	8	6	7
A 68	TVS	14	14	13	11	7	6	7





8	9	10	11	12
A	S	O	N	D

268	187	142	92	70
-----	-----	-----	----	----

103	71	53	33	25
-----	----	----	----	----

37	26	20	16	14
----	----	----	----	----

122	82	60	38	28
-----	----	----	----	----

20	29	34	32	25
----	----	----	----	----

33	52	65	66	57
----	----	----	----	----

73	64	55	46	38
----	----	----	----	----

10	8	6	4	6
----	---	---	---	---

-20	-16	-16	-13	-9
-----	-----	-----	-----	----

-15.79	-14.41	-14.42	-12.00	-8.00
--------	--------	--------	--------	-------

-3	-1	-1	-1	-1
----	----	----	----	----

-1	0	0	0	0
----	---	---	---	---

6	12	13	6	1
---	----	----	---	---

4	14	14	-1	-2
---	----	----	----	----

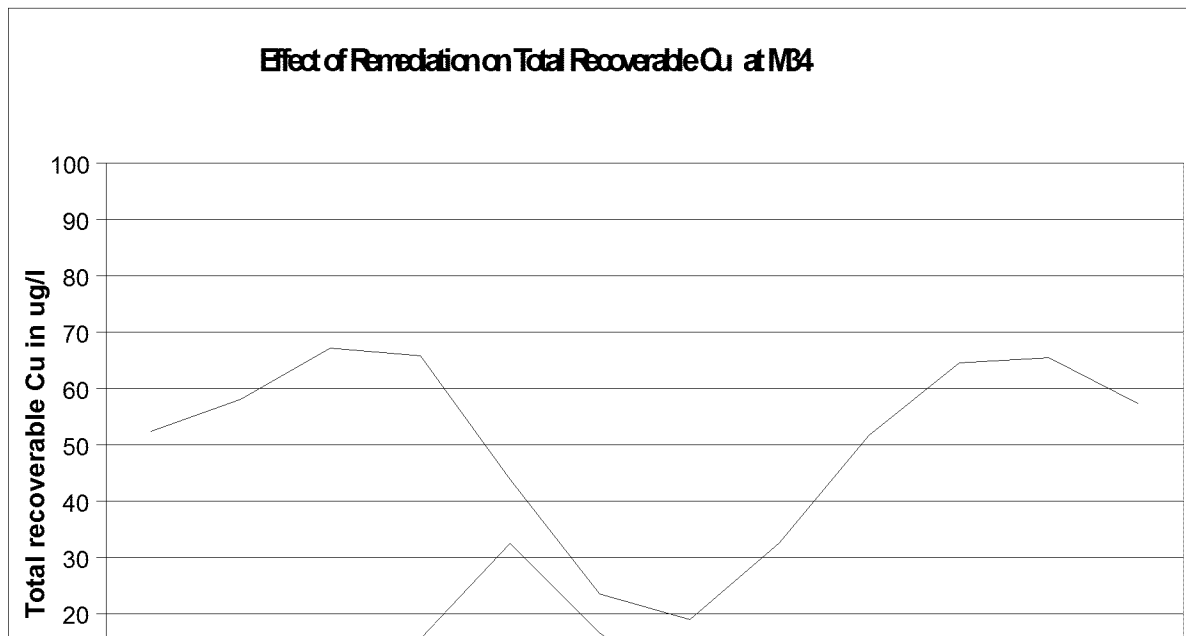
56	54	43	38	30
----	----	----	----	----

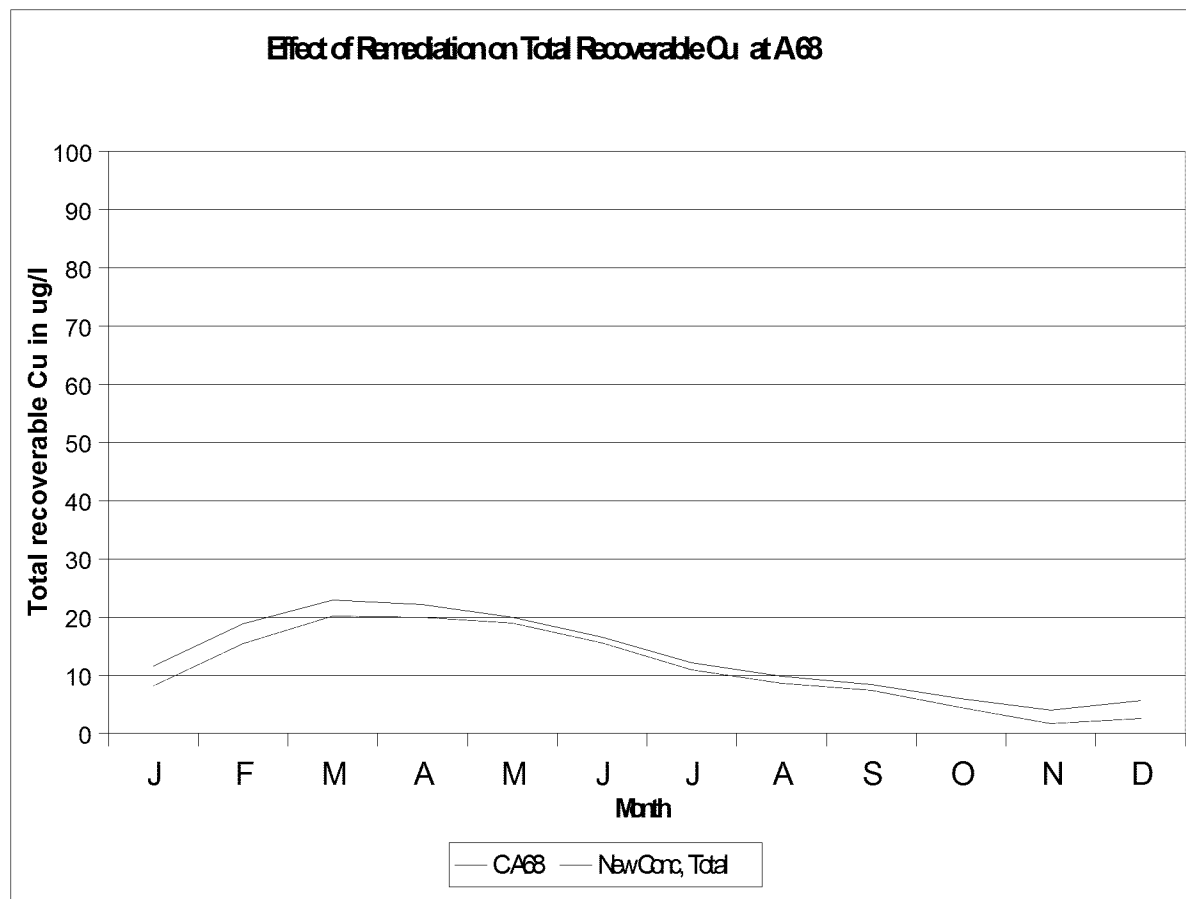
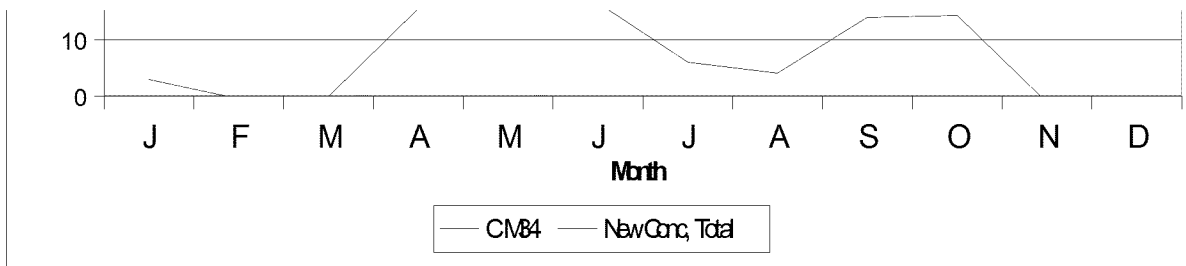
9	7	5	2	3
---	---	---	---	---

5	7	7	9	10
---	---	---	---	----

11	13	16	17	20
----	----	----	----	----

10	11	12	13	14
----	----	----	----	----





charge in cfs			Copper Concentration Coefficients		
	Intercept	coefficient		B	Intercept
			Low Flow November-March		
M34	-2.771	0.394	-2.28954	<u>0.38718</u>	A72 0.001 11.68205
CC48	1.752	0.130	6.77165	<u>0.10539</u>	M34 0.01 29.69
A68	-11.131	0.498	-3.62869	<u>0.45153</u>	CC48 1.00 95.55
					A68 0.00 26.09165

Discharge Relationships among the three gages

MONTH	J	F	M	A	M	J	J
Intercept	1	1	1	1	1	1	1
A 72	64	63	77	155	682	1196	625
M34	22	22	28	58	266	468	243
CC48	14	13	15	22	91	158	83
A68	25	25	31	66	329	585	300
Ground water	3	3	3	9	-3	-14	-2

1/(1+BQ) Discharge Representation

A 72	0.9398	0.9407	0.9285	0.8658	0.5945	0.4554	0.6154
M34	0.8361	0.8385	0.8066	0.6633	0.3016	0.1969	0.3205
CC48	0.0689	0.0694	0.0629	0.0435	0.0109	0.0063	0.0119
A68	0.9754	0.9758	0.9698	0.9380	0.7527	0.6311	0.7691

Date variables

sin	0.1552	0.6358	0.9276	0.9887	0.7862	0.3629	-0.1441
cos	0.9879	0.7719	0.3737	-0.1496	-0.6180	-0.9318	-0.9896
sin1	0.3066	0.9815	0.6932	-0.2959	-0.9717	-0.6763	0.2852
cos1	0.9518	0.1916	-0.7207	-0.9552	-0.2361	0.7366	0.9585
Consent	1	1	1	1	1	1	1

A72	Intercept	1	1	1	1	1	1
	BQ	0.9398	0.9407	0.9285	0.8658	0.5945	0.6154
	sin	0.1552	0.6358	0.9276	0.9887	0.7862	-0.1441
	cos	0.9879	0.7719	0.3737	-0.1496	-0.6180	-0.9896
	sin1	0.3066	0.9815	0.6932	-0.2959	-0.9717	-0.6763
	cos1	0.9518	0.1916	-0.7207	-0.9552	-0.2361	0.7366
	Consent	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
A72 Concentration		24	32	44	49	37	21
							15

M34	Intercept	1	1	1	1	1	1
	BQ	0.8361	0.8385	0.8066	0.6633	0.3016	0.1969
	sin	0.1552	0.6358	0.9276	0.9887	0.7862	-0.1441
	cos	0.9879	0.7719	0.3737	-0.1496	-0.6180	-0.9896
	sin1	0.3066	0.9815	0.6932	-0.2959	-0.9717	-0.6763
	cos1	0.9518	0.1916	-0.7207	-0.9552	-0.2361	0.7366
	Consent	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
M34 Concentration		52	58	67	66	44	24
							19

CC 48	Intercept	1	1	1	1	1	1	1
	BQ	0.0689	0.0694	0.0629	0.0435	0.0109	0.0063	0.0119
	sin	0.1552	0.6358	0.9276	0.9887	0.7862	0.3629	-0.1441
	cos	0.9879	0.7719	0.3737	-0.1496	-0.6180	-0.9318	-0.9896
	sin1	0.3066	0.9815	0.6932	-0.2959	-0.9717	-0.6763	0.2852
	cos1	0.9518	0.1916	-0.7207	-0.9552	-0.2361	0.7366	0.9585
	Consent	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
CC 48 Concentration		36	35	41	58	86	90	85
A68	Intercept	1	1	1	1	1	1	1
	BQ	0.9754	0.9758	0.9698	0.9380	0.7527	0.6311	0.7691
	sin	0.1552	0.6358	0.9276	0.9887	0.7862	0.3629	-0.1441
	cos	0.9879	0.7719	0.3737	-0.1496	-0.6180	-0.9318	-0.9896
	sin1	0.3066	0.9815	0.6932	-0.2959	-0.9717	-0.6763	0.2852
	cos1	0.9518	0.1916	-0.7207	-0.9552	-0.2361	0.7366	0.9585
	Consent							
A68 Concentration		12	19	23	22	20	17	12
Concentration		32	39	45	44	32	20	16
Load in pounds per day								
Total Cu		11	13	18	38	140	187	83
Dis Cu		8	11	18	41	137	135	51
% Difference		-0.26	-0.14	0.01	0.09	-0.02	-0.28	-0.39
RPD		0.29	0.15	-0.01	-0.08	0.02	0.32	0.48

opper Concentration Coefficients

Bq	sin	cos	sin1	cos1	Consent
22.75607	7.43436	-0.44983	-3.82683	<u>-9.31243</u>	0.00
33.14	2.19	7.91	-4.53	-12.40	0.00
-867.50	0.00	0.00	0.00	0.00	0.00
-14.49469	8.15942	-0.05697	2.31854	<u>-2.43287</u>	0.00

A	S	O	N	D
1	1	1	1	1
268	187	142	92	70
103	71	53	33	25
37	26	20	16	14
122	82	60	38	28
6	8	9	4	3

0.7886	0.8425	0.8757	0.9158	0.9346
0.5276	0.6183	0.6835	0.7749	0.8222
0.0265	0.0368	0.0470	0.0572	0.0660
0.8910	0.9242	0.9438	0.9635	0.9728

-0.6271	-0.9360	-0.9878	-0.7716	-0.3573
-0.7789	-0.3521	0.1556	0.6361	0.9340
0.9769	0.6591	-0.3074	-0.9816	-0.6674
0.2135	-0.7521	-0.9516	-0.1908	0.7447
1	1	1	1	1

1	1	1	1	1
0.7886	0.8425	0.8757	0.9158	0.9346
-0.6271	-0.9360	-0.9878	-0.7716	-0.3573
-0.7789	-0.3521	0.1556	0.6361	0.9340
0.9769	0.6591	-0.3074	-0.9816	-0.6674
0.2135	-0.7521	-0.9516	-0.1908	0.7447
1.0000	1.0000	1.0000	1.0000	1.0000
20	29	34	32	25

1	1	1	1	1
0.5276	0.6183	0.6835	0.7749	0.8222
-0.6271	-0.9360	-0.9878	-0.7716	-0.3573
-0.7789	-0.3521	0.1556	0.6361	0.9340
0.9769	0.6591	-0.3074	-0.9816	-0.6674
0.2135	-0.7521	-0.9516	-0.1908	0.7447
1.0000	1.0000	1.0000	1.0000	1.0000
33	52	65	66	57

1	1	1	1	1
0.0265	0.0368	0.0470	0.0572	0.0660
-0.6271	-0.9360	-0.9878	-0.7716	-0.3573
-0.7789	-0.3521	0.1556	0.6361	0.9340
0.9769	0.6591	-0.3074	-0.9816	-0.6674
0.2135	-0.7521	-0.9516	-0.1908	0.7447
1.0000	1.0000	1.0000	1.0000	1.0000
73	64	55	46	38

1	1	1	1	1
0.8910	0.9242	0.9438	0.9635	0.9728
-0.6271	-0.9360	-0.9878	-0.7716	-0.3573
-0.7789	-0.3521	0.1556	0.6361	0.9340
0.9769	0.6591	-0.3074	-0.9816	-0.6674
0.2135	-0.7521	-0.9516	-0.1908	0.7447
10	8	6	4	6

21	30	35	35	32
----	----	----	----	----

40	34	28	17	12	
28	29	26	16	10	
-0.29	-0.15	-0.07	-0.09	-0.20	-0.15
0.33	0.16	0.07	0.09	0.22	

A72			Prediction Equation Coefficients				
Chronic TVS at A72			Hardness AluminumCadmium				
	a2	b2					
Cd	-2.715	0.7852	B	0.006	1.000	0.006	
Cu	-1.7428	0.8545	Intercept	82.304	-26.540	1.020	
Mn	5.8743	0.3331	BQ	200.676	5610.562	1.466	
Zn	0.8669	0.8473	sin	16.936	158.116	0.599	
			cos	48.860	40.749	0.066	
			sin1	15.385	127.998	-0.265	
			cos1	-5.633	6.691	-0.292	
			Consent				
	Month	J	F	M	A	M	J
	Q	64	63	77	155	682	1196
	Hardness	277	290	268	196	91	53
	Al ch	87	87	87	87	87	87
	Cd ch	5.5	5.7	5.3	4.2	2.3	1.5
	Cu ch	11	11	10	8	4	3
	Mn ch	2317	2352	2290	2064	1598	1333
	Zn ch	279	290	271	208	109	68

M 34		Prediction equation coefficients						
		Hardness	Aluminum	Cadmium	Copper	Iron	Zinc	
B		0.013	1.00	0.021	0.123	0.06521	0.021	
Intercept		60.05228	15.10361	0.91724	14.65129	77.70523	05.25873	
BQ		05.02801	38.29032	0.60966	00.98354	70.29706	78.11589	
sin		9.24827	69.03843	0.26911	14.16661	89.38888	88.77920	
cos		32.30173	79.08681	0.20991	10.17487	38.04002	85.94018	
sin1		435.43127	-0.12214	1.04278	86.24646	-17.99615		
cos1		123.10453	-0.14689	-3.82920	-12.30367	-45.60154		
consent		-265.10754		-10.75402	35.80515	-98.00378		
MONTH		J	F	M	A	M	J	J
Q		22	22	28	58	266	468	243
Hardness		255	241	226	170	86	60	76
Chronic StanAl, ch		87	87	87	87	87	87	87
Cd, ch		2.4	2.3	2.1	1.7	1.0	0.8	0.9
Cu ch		20	19	18	14	8	6	7

Mn	2253	2212	2163	1969	1571	1389	1504
Zn ch	260	248	235	185	104	76	93

A68 Animas at Silverton

		Prediction equation coefficients					
		Hardness	Cadmium	Copper	Manganese	Zinc	
B		0.011na	na	0.010	0.016		
Intercept		37.945	2.395	5.783	258.473	304.617	
BQ		165.600			1371.923	644.136	
sin			1.712	2.049	611.024	315.451	
cos			0.140	0.729	81.662	-18.603	
sin1			-0.250	-1.520	16.031	-33.783	
cos1			-1.185	-0.472	-263.628	-140.108	
May			-1.936	2.261	-258.699		
consent			-0.714	-1.828	411.428	-67.174	
Animas R	Month	J	F	M	A	M	J
	Q	25	25	31	66	329	585
	Hardness	168	168	161	134	74	60
	Cd, tvs	1.7	1.7	1.7	1.4	0.9	0.8
	Cu tvs	14	14	13	11	7	6
	Mn tvs	1959	1961	1934	1818	1491	1393
onic stand	Zn tvs	182	183	177	151	91	77
							94

Reaction Equation Coefficients

Copper	Iron	Zinc			
0.100	0.048	0.014			
11.592	325.430	272.266			
-11.516	6156.248	697.432			
5.618	310.323	155.229			
5.955	262.025	37.490			
1.700	-72.066	-37.359			
-0.594	-177.065	-77.421			
-1.491					
A	S	O	N	D	
268	187	142	92	70	
124	158	182	215	248	
87	87	87	87	87	
2.9	3.5	3.9	4.5	5.0	
5	7	7	9	10	
1772	1920	2013	2129	2233	
141	173	195	225	255	

	Acute TVS at M34		Chronic TVS at M34	
	a2	b2	a3	b3
Cd	-3.828	1.128	-3.49	0.7852
Cu	-0.7703	0.9422	-1.7428	0.8545
Mn	4.4995	0.7893	5.8743	0.3331
Zn	0.8904	0.8473	0.8669	0.8473

A	S	O	N	D
103	71	53	33	25
126	151	192	217	253
87	87	87	87	87
1.4	1.6	1.9	2.1	2.3
11	13	16	17	20

1783	1892	2050	2136	2246
144	167	205	227	258

Chronic TVS at A68					
	a2	b2			
Cd	-3.49	0.7852			
Cu	-1.7428	0.8545			
Mn	5.8743	0.3331			
Zn	0.8669	0.8473			
A	S	O	N	D	
122	82	60	38	28	
109	125	138	155	165	
1.2	1.4	1.5	1.6	1.7	
10	11	12	13	14	
1695	1777	1836	1908	1947	
126	142	155	171	180	